



Using a "fishbone diagram" to analyse problems or to identify barriers to change

Dr. Kaoru Ishikawa, a Japanese quality control expert, is credited with inventing the fishbone diagram. A fishbone diagram, also called a "cause and effect diagram", and is a tool for team to use to identify or categorise the potential causes of a problem, or barriers for future change, in order to identify its root causes.

A fishbone diagram is useful in brainstorming sessions to focus conversation. After the group has brainstormed all the possible causes for a problem, the group rates the potential causes according to their level of importance, and create a hierarchy.

The purpose of a fishbone diagram is to help employees avoid solutions that only address symptoms of a larger problem and to help them to spot the real problem and to solve that problem.

The design of the diagram looks much like a skeleton of a fish. Fishbone diagrams are typically worked right to left, with each large "bone" of the fish branching out to include smaller bones containing more detail.

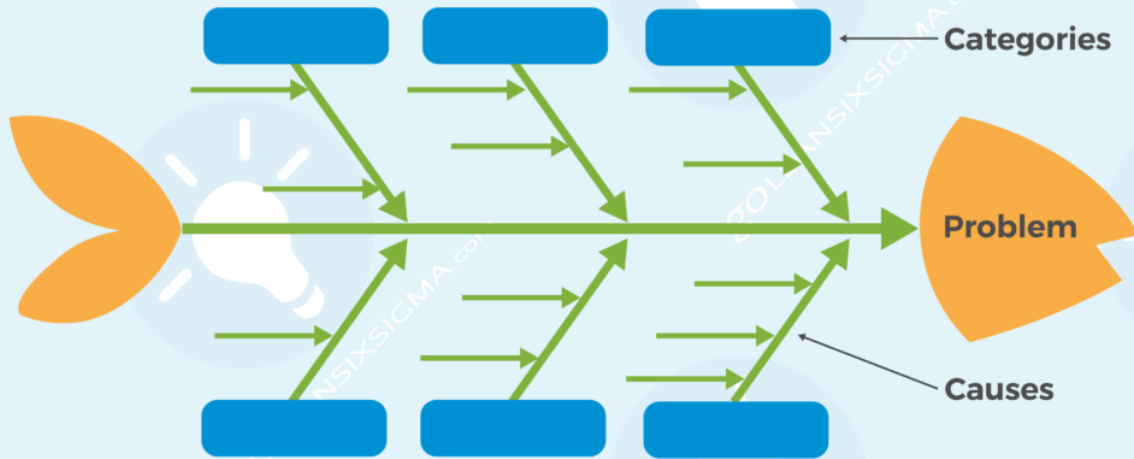
1. Create a fishbone diagram

As a group:

- Create a "head", which sets out clearly the problem or issue to be studied. This is best done in on a whiteboard or piece of flipchart on the wall.
- Create a "backbone" for the fish (straight line which leads to the head).
- Identify at least four categories of cause which contribute to the problem. You could make your own up, or use the 4P's (Policies, Procedures, People and Plant) or "Method, Man, Environment, Material".
- Connect these four categories with arrows to the spine. These will create the first bones of the fish.
- Brainstorm each "category" to identify and capture causes under that heading. To help with brainstorming a particular and to drill down into the cause of the problem, use the "5 Whys" approach, asking "why" five times to really establish the root cause of an element of the problem
- Continue breaking down each cause until you are sure the root causes have been identified.

Fishbone Diagram

A Fishbone Diagram is a structured brainstorming tool using categories to explore root causes for an undesirable effect.



2. Rate each issue identified

In order to prioritise which issues to tackle first, each person in the group should rate each cause identified. This could be, for example, a red, amber, green rating, or a 1 to 5 rating. It could be done as a group, but it's usually better for people to rate them separately first so everyone gets a chance to share their view.

3. Build solutions

Pick the categories and causes with the highest rating in the hierarchy and spend some time creating a plan to tackle them and remove the barriers to change.

An example fishbone diagram, ready to be rated (they can end up quite complex!) :

